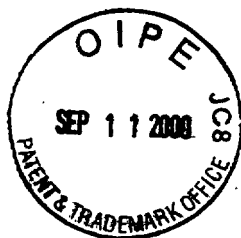


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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
JERRY L. FLINT
NORMAN J. PROBST
NAGABHUSHANA G. GUBBIGA

Group Art Unit: 1616

Examiner: CLARDY, S.

Atty. Dkt. No.: MOBT:174---/KAM

Serial No.: 09/264,775

Filed: March 9, 1999

For: TANK MIXTURES AND PREMIXTURES
FOR WEED CONTROL PROGRAMS
THAT INCLUDE POST-EMERGENCE
APPLICATION OF GLYPHOSATE PLUS
GRAMINICIDES IN GLYPHOSATE
TOLERANT SOYBEANS

[Handwritten signature]
9-21-00

RESPONSE TO OFFICE ACTION DATED JUNE 5, 2000

Box Non-Fee Amendment
Commissioner for Patents
Washington, D.C. 20231

Sir:

This paper is submitted in response to the Office Action dated June 5, 2000 for which the three-month date for response is September 5, 2000.

It is believed that no fee is due; however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason, the Commissioner is authorized to deduct said fees from Deposit Account No. 01-2508/MOBT:174/KAM.

A

I. AMENDMENT

Please make the following amendments:

IN THE CLAIMS:

Please cancel claims 2 and 8.

Please amend claim 1 as follows:

1. An herbicidal mixture[,] comprising a glyphosate herbicide and a non-glyphosate herbicide[, wherein the non-glyphosate herbicide] that is an ACCase inhibitor or an AHAS inhibitor, wherein said non-glyphosate herbicide is selected from the group consisting of quizalofop, clethodim, sethoxydim, imazamox, and fenoxaprop.

Applicants respectfully submit that the proposed amendment introduces no new matter.

Support for the amendment is found throughout the specification, and in particular on page 11 and in Examples 1-6.

II. RESPONSE TO OFFICE ACTION

REJECTIONS UNDER 35 U.S.C. § 102:

Claims 1, 2, and 8 stand rejected under 35 U.S.C. §102(a) and (b) as allegedly being anticipated by European Patent Application No. 0 144 137 (the Stauffer reference). Specifically, the Examiner contends that the Stauffer reference describes herbicidal compositions containing glyphosate and fluazifop. Applicants have amended claim 1 to exclude these compositions and canceled claims 2 and 8. Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

REJECTIONS UNDER 35 U.S.C. § 103:

Claims 1-23 have been rejected under 35 U.S.C. §103(a) as allegedly being obvious from European Patent Application No. 0 144 137 (the Stauffer reference) in view of GB 2,233,229

(the Rhone-Poulenc reference) and Young *et al.* (the Young reference). Specifically, the Examiner contends that because the Stauffer and Rhone-Poulenc references teach the combination of glyphosate with additional herbicides, and because Young *et al.* allegedly teaches that all ACCase inhibiting herbicides behave similarly, one of ordinary skill in the art would be motivated to combine these references to arrive at the present invention. Applicants respectfully traverse.

1. The Stauffer reference is generally directed to the control of undesired vegetation by herbicidal compositions comprising: (1) N-phosphonomethylglycine or agriculturally acceptable salts thereof, and (2) an aryloxyphenoxy propionic acid ester with the distinguishing structural feature of a trifluoromethyl group at the 5 position of the terminal aromatic ring. Stauffer does not teach the combination of N-phosphonomethylglycine with ACCase or AHAS-inhibiting co-herbicides selected from the group consisting of quizalofop, clethodim, sethoxydim, imazamox, and fenoxaprop. Nor does Stauffer teach or suggest methods of controlling both glyphosate susceptible weeds and glyphosate tolerant volunteer species.

2. The Rhone-Poulenc reference is generally directed to herbicidal compositions containing: (1) N-phosphonomethylglycine, and (2) an alkylated 1,3-propylenediamine surfactant. The specification discloses that the composition may also contain a co-herbicide in addition to N-phosphonomethylglycine. Several candidate co-herbicides are listed, but the co-herbicides of the present invention are not among them. There is no teaching in the Rhone-Poulenc reference of how to select an appropriate co-herbicide. The Rhone-Poulenc reference also does not teach or suggest methods of controlling both glyphosate susceptible weeds and glyphosate tolerant volunteer species.

3. The Young reference is a research report generally directed towards the control of sethoxydim-resistant corn. The report teaches that corn that is resistant to sethoxydim, an acetyl-CoA carboxylase (ACCase) inhibitor, also exhibits increased resistance to other ACCase inhibitors. The Young reference does not refer to herbicidal compositions comprising N-phosphonomethylglycine, nor to methods of controlling glyphosate susceptible weeds and volunteer species that are glyphosate tolerant. In fact, the Young reference does not refer to glyphosate tolerance. The reference teaches that if a plant species is resistant to sethoxydim, then it is also likely to be resistant to other ACCase inhibitors. The Young reference does not teach or suggest that such a species would exhibit increased resistance to an herbicide such as glyphosate that has an entirely different mechanism of action.

4. In contrast to the above references, the present application is directed to the control of volunteer species that are the progeny of plants designed to be glyphosate tolerant in a field of a glyphosate-tolerant crop by using tank mixtures or premixtures of a glyphosate herbicide with a second herbicide having a different mechanism of action (ACCase or AHAS inhibition) against the volunteer plant species.

5. The examiner alleges that because the Stauffer and Rhone-Poulenc references teach the combination of glyphosate with additional herbicides, the present invention was obvious. Applicants respectfully traverse. The Stauffer and Rhone-Poulenc references do not remedy the deficiencies of the Young reference by teaching features of the claimed invention that are absent from the Young reference. It is acknowledged in the present application that mixtures of herbicides are well-known in the art (page 6, line 25). However, the herbicidal combinations disclosed in the present invention are tailored for a very specific application: the simultaneous control of weeds and glyphosate tolerant volunteer plants in a field of a glyphosate-tolerant crop.

There is no teaching in the Stauffer or the Rhone-Poulenc references to combine N-phosphonomethylglycine with the co-herbicides of the present claims, or to use any combination of glyphosate and a co-herbicide to control a glyphosate-tolerant volunteer species. Although the examiner alleges that the Young reference teaches the equivalence of all ACCase inhibiting herbicides, the Young reference teaches the equivalence of certain ACCase inhibiting herbicides only in regard to their activity against sethoxydim-resistant corn. It would be reading far too much into Young to conclude that because several ACCase inhibitors perform similarly against corn engineered to resist sethoxydim (itself an ACCase inhibitor), they would also perform similarly against corn engineered to tolerate glyphosate, an EPSPS inhibitor.

6. To establish a *prima facie* case of obviousness, the prior art references must teach or suggest all of the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The references cited by the examiner do not teach: (1) the combination of N-phosphonomethylglycine with the co-herbicides of the present claims, or (2) the control of volunteer plants expressing glyphosate tolerance in a field of a glyphosate-tolerant crop.

Given the above, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-23 under 35 U.S.C. §103(a) and (b). The Examiner is invited to contact the undersigned attorney at 713-787-1400 with any questions, comments or suggestions relating to the referenced patent application.

Dr. D. Finckstein

MONSANTO COMPANY

Date: September 5, 2000

0 1 2 3 4 5 6 7 8 9

WHAT IS CLAIMED IS:

1. An herbicidal mixture comprising a glyphosate herbicide and a non-glyphosate herbicide that is an ACCase inhibitor or an AHAS inhibitor, wherein said non-glyphosate herbicide is selected from the group consisting of quizalofop, clethodim, sethoxydim, imazamox, and fenoxaprop.
3. The herbicidal mixture of claim 1, wherein the non-glyphosate herbicide is quizalofop.
4. The herbicidal mixture of claim 1, wherein the non-glyphosate herbicide is clethodim.
5. The herbicidal mixture of claim 1, wherein the non-glyphosate herbicide is sethoxydim.
6. The herbicidal mixture of claim 1, wherein the non-glyphosate herbicide is imazamox.
7. The herbicidal mixture of claim 1, wherein the non-glyphosate herbicide is fenoxaprop.
9. A method for controlling glyphosate-susceptible weeds and a glyphosate-tolerant first plant species growing in a crop of a glyphosate-tolerant second plant species, comprising:
first applying a non-glyphosate herbicide to the crop of the glyphosate-tolerant second plant species, the non-glyphosate herbicide being toxic to the first plant species and non-toxic to the second plant species, at a rate of application sufficient to control the first plant species; and,
second applying a glyphosate herbicide to the crop of the glyphosate-tolerant second plant species at a rate of application sufficient to control the glyphosate-susceptible weeds,
wherein the first applying and the second applying steps can be performed in either order or simultaneously.
10. The method of claim 9, wherein the first plant species is glyphosate-tolerant corn, wheat, or rice, and the second plant species is glyphosate-tolerant soybean, canola, sugarbeet, or cotton.

